CASE REPORT

ERCP through a gastrojejunal lumen-apposing stent

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We present a case of an 84-year-old man who had received a diagnosis of pancreatic head adenocarcinoma 2 years earlier. At that time, he had received bile and pancreatic duct stents with resolution of jaundice and improvement in diarrhea. Over the past month, the patient started experiencing epigastric pain, nausea, and vomiting.

Cross-sectional imaging demonstrated no significant change in pancreatic mass size, with intact stents and stable pneumobilia. An upper endoscopy was then performed, demonstrating narrowing of the second portion of the duodenum with inability of the endoscope to traverse this segment. Contrast medium was injected into the duodenal bulb and showed evidence of severe narrowing of the second portion of the duodenum (Fig. 1). A long ERCP guidewire was advanced through the upper endoscope past the duodenal narrowing and looped in the distal duodenum (Fig. 2). The endoscope was then withdrawn while the guidewire was maintained in place. A dilation balloon was advanced over the guidewire into the distal duodenum and inflated to 18 mm (Fig. 3). A linear echoendoscope was then advanced into the stomach. The dilated balloon was identified and punctured with a 19-gauge needle and immediate dissipation of contrast medium into the small intestine was observed (Fig. 4). Another guidewire was advanced through the 19-gauge needle into the small intestine. A Boston-Scientific (Marlborough, Mass) electrocautery-enhanced Axios stent was then deployed over the guidewire into the lumen of the small intestine (Fig. 5). The stent was then dilated with a 13.5-mm dilation balloon (Fig. 6). The final endoscopic and fluoroscopic appearance appeared satisfactory.

The patient did well after the procedure, with resolution of symptoms, and was discharged the next day after tolerating a regular diet. However, the patient presented about 2 weeks later with right upper-quadrant pain, fever, and an increase in bilirubin from 0.4 to 2.6 mg/dL. A transabdominal US showed worsening intrahepatic biliary dilatation.

Intravenous antibiotics were started, with improvement in symptoms but persistence of laboratory abnormalities. We then discussed with the patient the options of percutaneous drainage, EUS-guided hepaticogastrostomy, or an attempt at exchanging the stent through the newly placed Axios stent. The patient opted for an endoscopic intervention. A therapeutic gastroscope was used, and normal bowel mucosa was seen through the Axios stent. Contrast medium was injected through the stent to

Figure 1. Fluoroscopic view showing duodenal stricture.

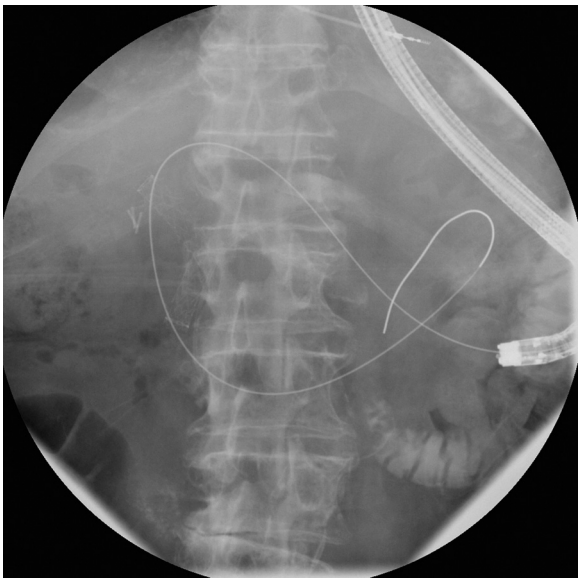

Figure 2. Fluoroscopic view showing passage of guidewire into the distal duodenum.

Written transcript of the video audio is available online at www.VideoGIE.org.

Figure 3. Fluoroscopic view showing balloon catheter in the distal duodenum.

Figure 4. Fluoroscopic view showing EUS-guided puncture of the balloon.

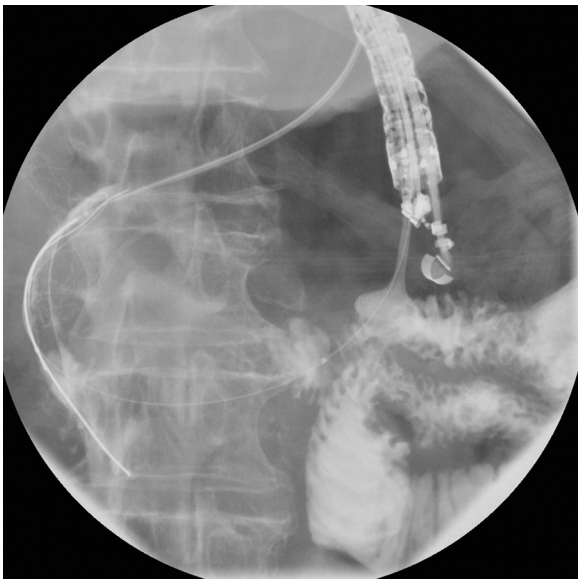

Figure 5. Fluoroscopic view showing lumen-apposing stent deployment.

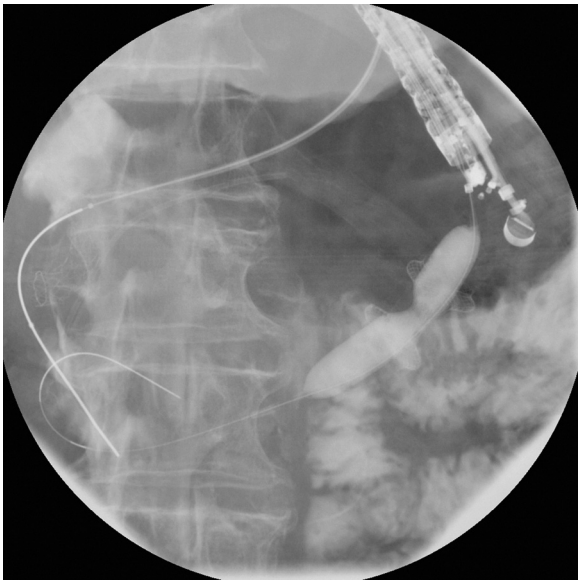

Figure 6. Fluoroscopic view showing balloon dilation of lumen-apposing stent.

delineate the anatomy. An ERCP retrieval balloon preloaded with a long guidewire was advanced into the afferent bowel, and the wire was manipulated past the stricture and looped in the duodenal bulb. The endoscope was then removed while the guidewire was maintained in place (Video 1). The endoscope was readvanced into the stomach, and the wire was grasped from the duodenal bulb and pulled out of the patient's mouth so that both ends of the wire were accessible. A Soehendra dilation catheter was advanced over the duodenal end of the wire to provide stability, and the endoscope was advanced over the jejunal end of the wire. While applying tension to both ends of the wire, we advanced the endoscope into the second portion of the duodenum through the Axios stent (Fig. 7), and the stents were visualized. Once this was achieved, the wire was pulled out of the endoscope. Using a rat-tooth forceps, we grasped the biliary metal stent and retrieved it through the accessory channel of the endoscope. The pancreatic plastic stent was inadvertently removed at the same time. Contrast medium was injected, filling the biliary tree along with the duodenal lumen, demonstrating mild intrahepatic dilatation and a few small filling defects in the distal bile duct (Fig. 8). A retrieval balloon was advanced into the bile ducts, and multiple sweeps were performed, removing a large amount of sludge and amorphous

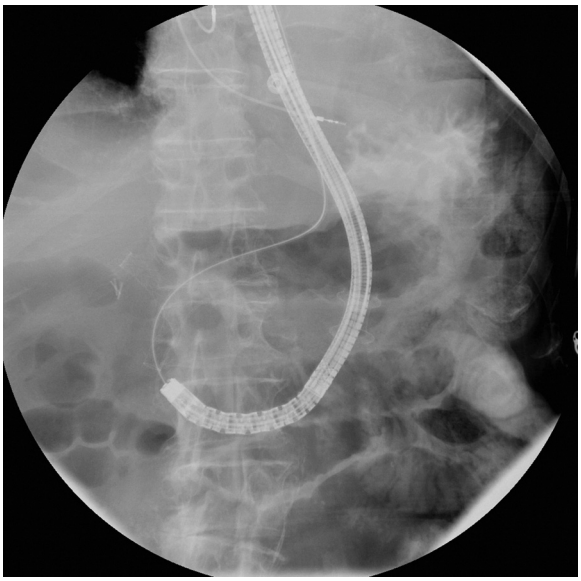

Figure 7. Fluoroscopic view showing passage of the endoscope through lumen-apposing stent.

Figure 8. Fluoroscopic view showing cholangiogram.

stones. A final occlusion cholangiogram did not show any filling defects. A 10-mm × 10-cm fully covered Gore Viabil (Newark, Del) metal stent was placed with the proximal end just distal to the biliary confluence (Fig. 9). Finally, contrast medium was injected through the endoscope at the site of the gastrojejunostomy, which confirmed an intact anastomosis with no evidence of extravasation. The patient's symptoms improved, and his liver function test results normalized the next day.

Figure 9. Fluoroscopic view showing stent insertion.

In conclusion, the use of a gastrojejunal stent allowed for biliary stent exchange despite duodenal obstruction, simulating ERCP performed in patients with Billroth II anatomy.

DISCLOSURE

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